

## RDY SERVERS

# PT.1 Server | 4<sup>th</sup> Gen Xeon<sup>®</sup> SP

A highly scalable, compact, secure, rugged rack server with the latest high-performance computing technologies to ensure peak performance and adaptability for a variety of ever-changing applications.



### MAXIMUM CONFIGURABILITY, FLEXIBILITY, AND SCALABILITY

Quickly adjust your system's performance to meet the constantly fluctuating demands of diverse data environments and ensure operational efficiency.



### ENHANCED COMPUTE + CONNECTIVITY

Process, analyze, store, retrieve, and transfer large amounts of actionable intelligence in seconds to improve decision-making and reduce response times.



### RUGGEDIZED FOR EXTREMES

Tested to meet the toughest military and industrial standards to ensure the quality and reliability of our solutions within harsh and austere conditions.

## Overview

A configurable, SWaP-C optimized 1U RDY Server supporting various option cards that delivers maximum processing, AI/ML/DL, networking, security, and storage alongside evolving workloads.

Designed in consultation with our team, the PT.1 Server meets and exceeds the most complex technical, performance, and environmental requirements for on-premise, cloud, and edge deployments.



### SOLUTION HIGHLIGHTS



**Intel<sup>®</sup> PFR, SGX, and TME** create a secure computing platform and enhance software/firmware resilience.



**Strict revision control** is achieved through Trenton's approved vendor list (AVL), ensuring engineer-vetted parts.



**In-house engineers** (hardware, software, mechanical, and electrical) control the design of your system down to the board and chip level.



**Next-gen PCIe slots** enable you to easily expand your board's capabilities to meet the demands of your application or program.



**Counterfeit Protection Program (CPP)** helps Trenton detect, remove, and destroy counterfeit parts and components.



**TAA compliance** is achieved because Trenton manufactures BAM servers, and its other solutions, in the United States.



**Intel<sup>®</sup> QAT** accelerates data compression and cryptography, freeing up the host processor and enhancing data storage/transfer.



**Vetted supply chain** helps protect your system from potentially compromised counterfeit electronic parts and components.



**CSfC, ITAR, ISO9001, and AS9100 adherence and compliance** allow Trenton to consistently provide secure, high-quality computing solutions.

# Technical Overview

SPECIFICATION	DETAILS
CPUs	Single Intel® 4 <sup>th</sup> Gen Xeon® SP (Sapphire Rapids)
Memory	8x DDR5-4400/4800 ECC RDIMM slots
Storage	Up to 9x SATA SSDs, NVMe w/RAID controller (FIPS 140-2/3 available)
Form Factors	1U rack server (19" x 1.75" x 20"   48.26cm x 4.44cm x 50.8cm)
Network Interface	3x 1GbE, 2x 10GbE ports supporting IPMI
PCIe Interconnect	1x PCIe 5.0 x16 slot for FHFL option cards
Power	2x 500W, redundant, non-461, removable

## PROCESSORS (UP TO 16 CORES PER CPU)

Single Intel® 4<sup>th</sup> Gen Xeon® SP CPU (Sapphire Rapids) up to 225W TDP  
Chipset: Intel® C741 Emmitsburg

## MEMORY (UP TO 2 TB)

8x DDR5-4400/4800 ECC RDIMM slots

## PCIe GEN 5.0 SLOT (CAN SUPPORT FHFL GPUs)

1x PCIe Gen 5.0 x16 slot

## I/O

- ▶ **SATA:** 8x SATA3 ports
- ▶ **USB:** 4x USB2 headers, 2x USB3 ports
- ▶ **IPMI:** IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
- ▶ **Graphics:** Intel® Integrated Graphics & ASPEED AST2600 BMC
- ▶ **Video:** 1x VGA port
- ▶ **LAN:** 3x 1GbE RJ-45 ports via dual Intel® i350 controller (1x Shared IPMI), 2x 10GbE ports
- ▶ **Serial:** 1x RS232 port

## SECURITY

### ▶ TPM 2.0

\*For a comprehensive list of cybersecurity features, please contact one of our team members.

## COOLING (BMC Controlled)

5x 4 pin system fan headers, 1x 4 pin CPU fan headers

## SYSTEM BIOS

- ▶ AMI SPI 256 Mbit BIOS
  - Plug and Play (PnP)
  - PCI 2.2
  - ACPI 1.0 / 2.0
  - USB Keyboard Support
  - SMBIOS 2.3
  - UEFI

## SYSTEM MANAGEMENT (BMC)

ASPEED AST2600 baseboard management controller: rKVM, system monitoring, out-of-band management

## OS COMPATIBILITY

- ▶ Windows Enterprise, Server
- ▶ Linux
  - RHEL
  - Ubuntu
  - SUSE

\*Contact us for the full compatibilities list

## DIMENSIONS

**Board:** 12" x 9.6" (30.48cm x 24.40cm)

**Chassis:** 19" x 1.75" x 20" (48.26cm x 4.44cm x 50.8cm)

## ENVIRONMENTAL SPECIFICATIONS

- ▶ Operating Temperature: 0°C - 50°C
- ▶ Storage Temperature: -40°C - 85°C
- ▶ Operating Humidity: 10% - 95% non-condensing
- ▶ Non-Operating Humidity: 10% - 95% non-condensing
- ▶ Shock: 3 axis, 35g, 25ms
- ▶ Vibration: 4.76Grms, 10Hz to 2000 Hz (SSD)
- ▶ Altitude: 0 to 10,000 ft (3,048m)
- ▶ Non-Operating Altitude: 0 to 30,000 ft (9,144m)

\*Preliminary numbers noted. Final numbers expected to outperform current specifications.

\*Conformal coating available upon request.

## COMPLIANCE

Designed to meet the following standards/certifications:

- ▶ MIL-STD-810H
- ▶ MIL-STD-461G
- ▶ DO-160F
- ▶ MIL-STD-704

The PT.1 Server can support multiple GPUs and other FHFL option cards. To configure a system per your requirements, reach out to a member of our team.

**Contact us for pricing and availability.**

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